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Measurement of Λ_c production via $\Lambda_c \rightarrow pK\pi$ channel in p-Pb collisions at 5.02 TeV with ALICE

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Heavy flavour quarks (charm and beauty) offer a unique opportunity to study the strongly-interacting medium, known as the Quark-Gluon Plasma (QGP), created in ultra-relativistic heavy-ion collisions. They are produced in the early stages of the collision, in hard scattering processes, allowing the heavy quarks to interact with the QGP throughout its entire evolution. The measurement of the Λ_c baryon and of the charmed mesons allows the baryon-to-meson ratio to be evaluated, probing hadronisation and thermalisation mechanisms in the medium. This measurement, made in p-Pb collisions, will also help to separate the hot and cold nuclear matter effects seen in Pb-Pb collisions.

The ALICE detector, with its excellent vertex reconstruction and hadron identification, allows for the study of Λ_c production. This poster presents the measurement of the p_T-differential cross section of the Λ_c baryon through the $\Lambda_c \rightarrow pK\pi$ decay channel in p-Pb collisions at $\sqrt{s_{NN}}$ = 5.02 TeV. The use of multivariate methods to optimise topological cuts, for improved signal extraction, will also be discussed.

Content type

Experiment

Collaboration

ALICE

Centralised submission by Collaboration

Presenter name already specified

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